

## STAINLESS STEEL PIPE DIMENSION AS PER ASTM & WEIGHT-KG. PER MTR. (ANSI B36.19)

| Nominal Bore |       | Outside Diameter | Sch-5S   |                   | Sch-10S  |                   | Sch-40S  |                   | Sch-80S  |                   | Sch-160S |                   | Sch-XXS  |                   |
|--------------|-------|------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|
| mm           | INCH  | mm               | Wt<br>mm | Weight<br>(Kg/mt) | Wt<br>mm | Weight<br>(Kg/mt) | Wt<br>mm | Weight<br>(Kg/mt) | Wt<br>mm | Weight<br>(Kg/mt) | Wt<br>mm | Weight<br>(Kg/mt) | Wt<br>mm | Weight<br>(Kg/mt) |
| 3            | 1/8   | 10.3             | 1.24     | 0.276             | 1.24     | 0.28              | 1.73     | 0.37              | 2.41     | 0.47              | -        | -                 | -        | -                 |
| 6            | 1/4   | 13.7             | 1.24     | 0.390             | 1.65     | 0.49              | 2.24     | 0.631             | 3.02     | 0.80              | -        | -                 | -        | -                 |
| 10           | 3/8   | 17.1             | 1.24     | 0.490             | 1.65     | 0.63              | 2.31     | 0.845             | 3.20     | 1.10              | -        | -                 | -        | -                 |
| 15           | 1/2   | 21.3             | 1.65     | 0.800             | 2.11     | 1.00              | 2.77     | 1.27              | 3.75     | 1.62              | 4.75     | 1.94              | 7.47     | 2.55              |
| 20           | 3/4   | 26.7             | 1.65     | 1.03              | 2.11     | 1.28              | 2.87     | 1.68              | 3.91     | 2.20              | 5.54     | 2.89              | 7.82     | 3.63              |
| 25           | 1     | 33.4             | 1.65     | 1.30              | 2.77     | 2.09              | 3.38     | 2.50              | 4.55     | 3.24              | 6.35     | 4.24              | 9.09     | 5.45              |
| 32           | 1 1/4 | 42.2             | 1.65     | 1.65              | 2.77     | 2.70              | 3.56     | 3.38              | 4.85     | 4.47              | 6.35     | 5.61              | 9.70     | 7.77              |
| 40           | 1 1/2 | 48.3             | 1.65     | 1.91              | 2.77     | 3.11              | 3.68     | 4.05              | 5.08     | 5.41              | 7.14     | 7.25              | 10.16    | 9.54              |
| 50           | 2     | 60.3             | 1.65     | 2.40              | 2.77     | 3.93              | 3.91     | 5.44              | 5.54     | 7.48              | 8.74     | 11.1              | 11.07    | 13.44             |
| 65           | 2 1/2 | 73.0             | 2.11     | 3.69              | 3.05     | 5.26              | 5.16     | 8.63              | 7.01     | 11.4              | 9.53     | 14.9              | 14.2     | 20.39             |
| 80           | 3     | 88.9             | 2.11     | 4.51              | 3.05     | 6.45              | 5.49     | 11.30             | 7.62     | 15.2              | 11.1     | 21.3              | 15.24    | 27.65             |
| 100          | 4     | 114.3            | 2.11     | 5.84              | 3.05     | 8.36              | 6.02     | 16.07             | 8.56     | 22.3              | 13.49    | 33.54             | 17.12    | 41.03             |
| 125          | 5     | 141.3            | 2.77     | 9.47              | 3.40     | 11.57             | 6.55     | 21.8              | 9.53     | 31.97             | 15.88    | 49.11             | 19.05    | 57.43             |
| 150          | 6     | 168.3            | 2.77     | 11.32             | 3.40     | 13.84             | 7.11     | 28.3              | 10.97    | 42.7              | 18.2     | 67.56             | 21.95    | 79.22             |
| 200          | 8     | 219.1            | 2.77     | 14.79             | 3.76     | 19.96             | 8.18     | 42.6              | 12.7     | 64.6              | 23.0     | 111.2             | 22.23    | 107.8             |
| 250          | 10    | 273.1            | 3.40     | 22.63             | 4.19     | 27.78             | 9.27     | 60.5              | 12.7     | 96.0              | 28.6     | 172.4             | 25.40    | 155.15            |
| 300          | 12    | 323.9            | 3.96     | 31.25             | 4.57     | 36.00             | 9.52     | 73.88             | 12.7     | 132.0             | 33.32    | 238.76            | 25.40    | 186.97            |
| 350          | 14    | 355.6            | 3.96     | 34.36             | 4.78     | 41.3              | 11.13    | 94.59             | 19.05    | 158.08            | 35.71    | 281.70            | -        | -                 |
| 400          | 16    | 406.4            | 4.19     | 41.56             | 4.78     | 47.29             | 12.7     | 123.30            | 21.41    | 203.33            | 40.46    | 365.11            | -        | -                 |
| 450          | 18    | 457.2            | 4.19     | 46.80             | 4.78     | 53.42             | 14.27    | 155.80            | 23.8     | 254.36            | 45.71    | 466.40            | -        | -                 |
| 500          | 20    | 508.0            | 4.78     | 59.25             | 5.54     | 68.71             | 15.09    | 183.42            | 26.19    | 311.2             | 49.99    | 564.68            | -        | -                 |
| 600          | 24    | 609.6            | 5.54     | 82.47             | 6.35     | 94.45             | 17.48    | 255.41            | 30.96    | 442.08            | 59.54    | 808.22            | -        | -                 |

## WEIGHT & THICKNESS OF S.S GUAGE PIPES

| DIMENSION |        | 10 SWG<br>(3.2 MM) | 12 SWG<br>(2.6 MM) | 14 SWG<br>(2.1 MM) | 16 SWG<br>(1.65 MM) | 18 SWG<br>(1.2 MM) | 19 SWG<br>(1.0 MM) |
|-----------|--------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|
| Size      | OD     | Weight/MTR         | Weight/MTR         | Weight/MTR         | Weight/MTR          | Weight/MTR         | Weight/MTR         |
| 1/2"      | 12.7   | 0.754              | 0.651              | 0.552              | 0.452               | 0.342              | 0.290              |
| 5/8"      | 15.875 | 1.006              | 0.856              | 0.718              | 0.582               | 0.437              | 0.369              |
| 3/4"      | 19.05  | 1.258              | 1.061              | 0.883              | 0.712               | 0.531              | 0.448              |
| 1"        | 25.4   | 1.762              | 1.470              | 1.214              | 0.972               | 0.720              | 0.605              |
| 1 1/4"    | 31.75  | 2.266              | 1.880              | 1.544              | 1.232               | 0.909              | 0.763              |
| 1 1/2"    | 38.1   | 2.770              | 2.289              | 1.875              | 1.492               | 1.098              | 0.920              |
| 2"        | 50.8   | 3.778              | 3.108              | 2.537              | 2.012               | 1.476              | 1.235              |
| 2 1/2"    | 63.5   | 4.786              | 3.928              | 3.198              | 2.531               | 1.854              | 1.550              |
| 3"        | 76.2   | 5.794              | 4.747              | 3.860              | 3.051               | 2.232              | 1.865              |
| 3 1/2"    | 88.9   | 6.802              | 5.566              | 4.521              | 3.571               | 2.610              | 2.180              |
| 4"        | 101.6  | 7.810              | 6.385              | 5.183              | 4.091               | 2.988              | 2.495              |

## ASTM SPECIFICATION & TOLERANCE FOR TUBING & PIPING

| Specification                                                                       | Allowable Outside Diameter<br>Variation in mm |       |       | Allowable Wall<br>Thickness Variation                 |        | Exact Length<br>Tolerance in mm      |       | Testing                                  |
|-------------------------------------------------------------------------------------|-----------------------------------------------|-------|-------|-------------------------------------------------------|--------|--------------------------------------|-------|------------------------------------------|
| ASTM-A213<br>Seamless Boiler<br>Superheater and<br>Heat Exchanger<br>Tubes          | Nominal Diameter                              | Over  | Under | %Over                                                 | %Under | Over                                 | Under | Flattening Test                          |
|                                                                                     | Under 25.4                                    | .1016 | .1016 | +20                                                   | -0     | 3.175                                | 0     | Tension Test                             |
|                                                                                     | 25.4-38.1 incl                                | .1524 | .1524 | +22                                                   | -0     | 3.175                                | 0     | Flare Test                               |
|                                                                                     | 38.1-50.8 excl                                | .2032 | .2032 | +22                                                   | -0     | 3.176                                | 0     | Hardness Test                            |
|                                                                                     | 50.8-63.5 excl                                | .254  | .254  | +22                                                   | -0     | 4.46                                 | 0     | 100% Hydrostatic test                    |
|                                                                                     | 63.5-76.2 excl                                | .3048 | .3048 | +22                                                   | -0     | 4.76                                 | 0     | Refer to ASTM A-450                      |
| ASTM-A249<br>Welded Boiler<br>Superheater, Heat<br>Exchanger And<br>Condenser Tubes | 76.2-101.6 incl                               | .381  | .381  | +22                                                   | -0     | 4.76                                 | 0     |                                          |
|                                                                                     | Under 25.4                                    | .1016 | .1016 | +10                                                   | -10    | 3.175                                | 0     | Tension Test                             |
|                                                                                     | 25.4-38.1 incl                                | .1524 | .1524 | +10                                                   | -10    | 3.175                                | 0     | Flattening Test                          |
|                                                                                     | 38.1-50.8 Excl                                | .2032 | .2032 | +10                                                   | -10    | 3.175                                | 0     | Flange Test                              |
|                                                                                     | 50.0-63.5 excl                                | .254  | .254  | +10                                                   | -10    | 4.762                                | 0     | Reverse Bend Test                        |
|                                                                                     | 63.5-76.2 excl                                | .3848 | .3048 | +10                                                   | -10    | 4.762                                | 0     | Hardness Test                            |
| ASTM-A269<br>Seamless & Welded<br>Tubing for General<br>Service                     | 76.2-101.6 incl                               | .381  | .381  | +10                                                   | -10    | 4.762                                | 0     | 100% Hydrostatic Test                    |
|                                                                                     |                                               |       |       | Minimum Wall tubes<br>+ 18% 0 available<br>On request |        |                                      |       | Refer to ASTM A-450                      |
|                                                                                     | Untp 12.7                                     | .13   | .13   | +15                                                   | -15    | 3.2                                  | 0     | Flare Test (Seamless Only)               |
|                                                                                     | 12.7-38.1 excl                                | .13   | .13   | +10                                                   | -10    | 3.2                                  | 0     | Flange Test (Welded Only)                |
|                                                                                     | 38.1-88.9 excl                                | .25   | .25   | +10                                                   | -10    | 4.8                                  | 0     | Hardness Test                            |
|                                                                                     | 88.9-139.7 excl                               | .38   | .38   | +10                                                   | -10    | 4.8                                  | 0     | Reverse Flattening Test<br>(Welded only) |
| ASTM-A270<br>Seamless & Welded<br>Sanitary Tubing                                   | 139.7-203.2 excl                              | .76   | .76   | +10                                                   | -10    | 4.8                                  | 0     | 100% Hydrostatic Test                    |
|                                                                                     |                                               |       |       |                                                       |        |                                      |       | Refer to ASTM-A269                       |
|                                                                                     | 25.4                                          | .05   | .20   | +10.0                                                 | -10.0  | 3.2                                  | 0     | Reverse flattening Test                  |
|                                                                                     | 38.1                                          | .05   | .20   | +10.0                                                 | -10.0  | 3.2                                  | 0     | 100% Hydrostatic Test                    |
|                                                                                     | 50.8                                          | .05   | .28   | +10.0                                                 | -10.0  | 3.2                                  | 0     | External polish on all tubes             |
|                                                                                     | 60.5                                          | .05   | .28   | +10.0                                                 | -10.0  | 3.2                                  | 0     | Refer to ASTM A-270                      |
| ASTM-A312<br>Seemless & Welded<br>pipe                                              | 76.2                                          | .08   | .30   | +10.0                                                 | -10.0  | 3.2                                  | 0     |                                          |
|                                                                                     | 101.6                                         | .08   | .38   | +10.0                                                 | -10.0  | 4.8                                  | 0     |                                          |
|                                                                                     | 3.175-38.1 incl                               | .4    | .79   | Minimum Wall                                          |        | 6.4                                  | 0     | Tension Test                             |
|                                                                                     | 38.1-1016 incl                                | .79   | .79   | 12.5% under<br>nominal wall<br>Specified              |        | 6.4                                  | 0     | Flattening Test                          |
|                                                                                     | 101.6-203.2 incl                              | 1.59  | .79   |                                                       |        | 6.4                                  | 0     | 100% Hydrostatic Test                    |
|                                                                                     |                                               |       |       |                                                       |        | (Normally Random<br>Lengths ordered) |       | Refer to ASTM A-530                      |
| ASTM A-358<br>Welded pipe                                                           | 219.08-750mm                                  | +0.5% |       | -0.3                                                  |        | 6.0                                  |       | Refer to ASTM A-530                      |